the models hip fracture was a specific outcome, 94% contained vertebral fractures, and 77% contained wrist/forearm fractures. Eleven models incorporate at least one extraskeletal effect on cost and survival (including breast cancer, coronary heart disease, venous thromboembolism, stroke, and colorectal cancer). Thirty-two (32) of the 48 publications (67%) assume 100% compliance or do not directly mention/model compliance. The majority of the models take the approach that there was discontinuation and non-compliance in the clinical trials, and that the treatment efficacy rates sourced from the clinical trials are underestimated due to the use of an intention-to-treat paradigm. **CONCLUSIONS:** The current state of osteoporosis modeling favors a non-cohort Markov approach, with individualized, i.e., microsimulation methodology being increasingly utilized as extraskeletal effects are incorporated. Treatment compliance and extraskeletal effects are extremely important in modeling real-world scenarios, yet they are not incorporated into the majority of the published models. Modeled treatment effectiveness should be properly imputed to account for the intention-to-treat impact of RCT-reported values as well as the reduced benefits of treatment noncompliance.

PMS27

A COST-EFFECTIVENESS ANALYSIS FROM AN INSTITUTIONAL PERSPECTIVE TO COMPARE ZOLEDRONIC ACID WITH STANDARD OF CARE IN THE PREVENTION OF HIP FRACTURES IN PATIENTS WITH OSTEOPOROSIS

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OBJECTIVES: Because of its prevalent condition and its association with hip fractures in the elderly population, Osteoporosis has become a major concern for health authorities in recent years. The objective of this study is to evaluate the most cost-effective alternative for preventing hip fractures in osteoporosis patients in Mexico. **METHODS:** A cost-effectiveness analysis was performed within an institutional setting (Mexican Institute of Social Security, IMSS). Patients were categorized into 2 groups by age: group A was comprised with patients ages 60 to 79 years, and group B was comprised with patients aged >80 years. The standard of care comparator used was all biphosphonates available in the National Formulary: risedronate, original alendronate, generic alendronate, and ibandronate. Resource use data was obtained from published studies; total direct costs of osteoporosis and hip fractures were used. The source of the unit costs was the institution, current for 2006. All costs are expressed in local currency (Mexican Pesos, MXP). The time horizon was 10 years; a discount rate of 3% was used. Effectiveness data was obtained from published studies; the measure used was hip fractures prevented. A probabilistic sensitivity analysis was obtained through a Monte Carlo simulation with 100,000 iterations in the weakest parameters. **RESULTS:** In both groups, zoledronic acid was the most cost-effective treatment. In group A, the C/E ratio was $221.43 MXP, as compared with $270.77 for generic alendronate, $332.50 for ibandronate, $340.24 for risedronate and $353.32 for original ibandronate. Likewise, in group B the C/E ratio for zoledronic acid was $574.50, as compared to $799.77 for generic alendronate, $941.52 for ibandronate, $961.38 for risedronate, and $993.89 for original alendronate. The sensitivity analysis confirmed the robustness of the model. **CONCLUSIONS:** From an institutional perspective, zoledronic acid is the most cost-effective alternative for the prevention of hip fractures in patients with osteoporosis in Mexico.

PMS28

COST-EFFECTIVNESS ANALYSIS OF NSAIDS FOR SYMTOMATIC TREATMENT OF RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS

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OBJECTIVES: High costs of rheumatoid arthritis (RA) and osteoarthritis (OA) due not only to high morbidity, disability and mortality levels, but also basis medications and treatment of adverse events which are very expensive. **METHODS:** We analyzed the efficacy and safety data from randomized clinical trials and systematic reviews of symptomatic treatment OA and RA patients with meloxicam and diclofenac. We were searching data on: www.cochrane.org, www.pubmed.gov, www.clinicaltrials.gov. A model "decision tree" was built based on two information sources: 1) literature review; 2) cost databases. We calculate the average direct costs of one serious cardiovascular thromboembolic adverse event and one serious gastrointestinal adverse event in Ukraine. We determined the CER based on costs from our "decision tree" model and data from the IMPROVE study. **RESULTS:** Direct costs of one serious cardiovascular and gastrointestinal adverse event were USD$590.29 and USD$613.81 (1 USD$ = 7.95 UAH on 10.01.2011), respectively. Direct costs of 60 days symptomatic treatment of 100 RA or OA patients with meloxicam 7.5 mg daily and diclofenac 100 mg daily were USD$2057.99 and USD$4975.22, respectively. CER meloxicam was calculated 30.72 and CER diclofenac - 117.34. The one-way sensitivity analysis performed with the most relevant varables confirmed this tendency. **CONCLUSIONS:** Results show that Meloxicam 7.5 daily is more economical effective versus diclofenac 100 mg daily for symptomatic treatment of RA and OA patients taking into account probability of serious cardiovascular thromboembolic and gastrointestinal adverse events.

PMS29

COST-UTILITY ANALYSIS OF COLLAGENASE CLOSTRIDIUM HISTOLYTICUM, LIMITED FASCIECTOMY, AND PERCUTANEOUS NEEDLE FASCIOTOMY IN DUPUYTREN'S CONTRACTURE

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OBJECTIVES: To assess the cost-effectiveness of limited fasciectomy (LF), percutaneous needle fasciotomy (PNF), and collagenase clostridium histolyticum (CCH) for the treatment of Dupuytren's contracture. **METHODS:** A Markov model was developed to simulate Dupuytren's contracture progression and estimate clinical/economic implications of LF, PNF, and CCH treatments from a US healthcare payer perspective. Transition probabilities were assumed to follow a beta distribution and were estimated based on results from randomized, clinical trials. Health state utilities and direct costs of therapies were assumed to follow a gamma distribution and obtained from published sources. Half-cycle correction was used with a 1-year cycle length over a 10-year time horizon. One-way sensitivity analyses were performed on relevant variables to test the robustness of the model. Probabilistic sensitivity analysis was performed using 10,000 trial simulations for all variables and results were presented as acceptability curves. The model used a discount rate of 3% per annum and reported in 2010 $US dollars. Primary outcomes evaluated incremental cost-effectiveness ratios. **RESULTS:** Of the 3 treatment decisions, LF was the dominant strategy. PNF and CCH were estimated to cost an additional $247 and $1844 compared to LF, respectively. An expected difference of −0.1 and −0.04 quality-adjusted life years (QALYs) were projected for PNF and CCH relative to LF, respectively. In the one-way sensitivity analysis, the model was sensitive to direct cost of LF with a break-even point of $2000 compared to PNF. The acceptability curve showed that LF had a higher probability of being cost-effective compared to other treatment modalities across a WTP threshold of $0 to $500,000. **CONCLUSIONS:** Across a WTP threshold between $0 and $500,000, LF was the most cost-effective therapy for the treatment of Dupuytren's contracture compared to PNF and CCH. However, the cost of surgery was sensitive in our model which may vary from site to site.

PMS30

COST-UTILITY ANALYSIS OF DENOSUMAB VERSUS STANDARD CARE IN THE TREATMENT OF POST-MENOPAUSAL OSTEOPOROSIS IN PORTUGAL

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OBJECTIVES: To estimate the cost-effectiveness of denosumab *vs.* the most commonly used therapy (alendronate+colecalciferol) in treatment of post-menopausal osteoporosis (PMO) in Portugal. **METHODS:** A Markov cost-utility life-cycle model with six month cycle length was used. The analysis was undertaken from a National Health Service (NHS) perspective. Efficacy data for denosumab was taken from the FREEDOM randomized double-blind clinical trial and for the comparator from a meta-analysis conducted by NICE. Epidemiological data were derived from Portuguese sources and complemented with Swedish data whenever the former were unavailable. Resource use data were collected through a modified Delphi panel of Portuguese experts (including rheumatologists, GPs and orthopedic surgeons). Resources were valued using various national sources on unit costs. EQ-5D decrements per fracture were based on the international literature. Expected persistence differences between treatments were also considered. Deterministic sensitivity analysis was conducted on key variables (including costs, utilities, impact of fractures on mortality, non-inclusion of sub-optimal persistence, comparator's price, age and T-score for treatment initiation). Probabilistic sensitivity analysis was performed on the model's treatment effects, fracture costs, EQ-5D fracture decrements and persistence rate differences. **RESULTS:** Considering an annual NHS cost of €382.20 for denosumab, the estimated ICER was €14,487 per QALY gained. The model predicts that, relative to the comparator, denosumab would prevent 12 hip, 22 vertebral, 2 wrist and 1 other osteoporotic fractures, per 1000 patients, over a 10 year period. Deterministic sensitivity analysis identified the absence of a persistence effect and the use of generic alendronate price as the most sensitive parameters (22,906, 20,817 €/QALY, respectively). The probability of cost-effectiveness ranged between 91% and 64% (willingness to pay set at 50,000 and 20,000 €/QALY, respectively). **CONCLUSIONS:** Results from the model suggest that, compared to the most commonly used strategy (alendronate+colecalciferol), denosumab is a cost-effective therapy in the treatment of PMO in Portugal.

PMS31

TITLE: THE RELATIVE COST-EFFECTIVENESS OF THE MOST COMMON NON-SURGICAL TREATMENTS FOR NECK PAIN.

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OBJECTIVES: A major challenge facing policy makers is the lack of economic evidence to guide their decisions about allocating health services for neck pain. Our objective was to evaluate the cost-effectiveness of the most commonly used neck pain treatments in Canada and the United States. **METHODS:** We conducted a cost-utility analysis with a decision-analytic model of 5 treatments for neck pain (exercise, cyclooxegenase-2 selective inhibitors, manipulation, mobilization, and nonsteroidal anti-inflammatory drugs [NSAIDs]) using a lifetime time horizon and adopting a health care system perspective. Model inputs included: estimates of the course of neck pain; background risk of adverse events in the general population; treatment effectiveness and risk of cerebrovascular, cardiovascular, and gastrointestinal adverse events; quality-of-life weights elicited from neck pain patients using the standard gamble; and direct and out-of-pocket costs. Costs were expressed in 2008 Canadian prices. The impact of beneficial and harmful treatment effects on health were expressed in quality-adjusted life years (QALYs). Cost-effectiveness was estimated with the incremental cost-effectiveness ratio (ICER). The probability that a given treatment was cost-effective was determined using a willingness-to-pay (WTP) threshold of $50,000 per QALY. **RESULTS:** Under a conven-